DIFFERENCE SEQUENCE SPACES OF $K-$FUNCTIONS *

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Abstract

In this paper we define certain difference sequence spaces via $n-$normed space and a sequence of Orlicz function without convexity. We also make an effort to investigate their structural and some topological properties. Finally, we broaden this idea to double sequences and establish a new matrix theoretic approach for construction of double sequence spaces over $n-$normed spaces.

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keywords: $n-$normed space, Difference sequence space, $K-$function, $F-$space, $AK-$space, Fréchet space.

1 Introduction and preliminaries

In [8] Gähler introduced an attractive theory of 2-normed spaces. The notion was further generalized by Misiak [24] by introducing n-normed spaces. Also these spaces were studied by Gunawan ([9],[10]) in more detail. In [11] Gunawan and Mashadi gave a simple way to derive an $(n-1)$-norm from the n-norm. Let $n \in \mathbb{N}$ and X be a linear space over the field $\mathbb{R}$ of reals of dimension d, where $d \geq n \geq 2$. A real valued function $||\cdot, \cdots, \cdot||$ on X^n satisfying the following four conditions: